

WHAT IS CLAIMED IS:

- 1 1. A magnetic head prepared by a process comprising:
2 dispensing lapping media onto an interface surface of a compliant pad;
3 engaging the interface surface to the surface of a head outside a region
4 comprising a magnetic transducer defining a head gap; and
5 moving the pad over the head in a direction parallel to the head gap while
6 using a head rail to guide the pad.
- 1 2. The magnetic head of claim 1 wherein the moving further comprises
2 oscillating the pad linearly over the head parallel to the head gap.
- 1 3. The magnetic head of claim 1 wherein the lapping media contains a
2 combination of chemical and mechanical agents.
- 1 4. The magnetic head of claim 3 wherein the chemical agents are
2 etchants that are specifically adjusted to give a desired head profile for the poletips
3 and shields.
- 1 5. The magnetic head of claim 4 wherein the etchants are formed by
2 adding dilute acid to the conventional lapping media used at the interface surface.
- 1 6. The magnetic head of claim 5 wherein the added etchants selectively
2 remove iron containing poles and shields to advance the poletips below a
3 surrounding insulator layer.

1 7. The magnetic head of claim 3 wherein the magnetic head comprises
2 an MR element and shields defining an MR read sensor, and wherein the moving of
3 the compliant pad causes the mechanical and chemical agents to eliminate element
4 conducting connections smears between the MR element and shields.

1 8. The magnetic head of claim 1 wherein the compliant pad is relatively
2 soft conforms to the head rail which serves as a guide resulting in parallel
3 movement during the lapping.

1 9. The magnetic head of claim 1 wherein the soft, compliant pad
2 comprises a fabric mat.

1 10. A method for performing a finishing lapping process to a magnetic
2 head, comprising:
3 dispensing lapping media onto an interface surface of a compliant pad;
4 engaging the interface surface to the surface of a head outside a region
5 comprising magnetic transducers defining a head gap; and
6 moving the pad over the head in a direction parallel to the head gap while
7 using a head rail to guide the pad.

1 11. The method of claim 10 wherein the moving further comprises
2 oscillating the pad linearly over the head parallel to the head gap.

1 12. The method of claim 10 wherein the lapping media contains a
2 combination of chemical and mechanical agents.

1 13. The method of claim 12 wherein the chemical etchants are etchants
2 specifically adjusted to give a desired head profile for the poletips and shields.

1 14. The method of claim 13 wherein the etchants are formed by adding
2 dilute acid to the conventional lapping media used at the interface surface.

1 15. The method of claim 14 wherein the added etchant selectively
2 removes iron containing poles and shields to advance the poletips below a
3 surrounding insulator layer.

1 16. The method of claim 12 wherein the magnetic head comprises a MR
2 element and shields defining a MR read sensor, and wherein the moving of the soft,
3 compliant pad causes the mechanical agents to eliminate element conducting
4 connections and smears between the MR element and shields.

1 17. The method of claim 16 wherein the moving further comprises moving
2 the pad from one end of the head to another and reversing the direction without
3 stopping on the elements.

1 18. The method of claim 10 wherein the soft, compliant pad conforms to
2 the head rail to provide a parallel movement during the moving.

1 19. The method of claim 10 wherein the soft, compliant pad comprises a
2 fabric mat.

- 1 20. The method of claim 10 wherein the fabric mat comprises a cotton
2 mat.